

LISTING OF THE CLAIMS

Claims 1-29: (canceled).

30 (previously presented): A black low thermal expansion high specific rigidity ceramic sintered body, comprising:

having a thermal expansion coefficient of not more than $0.6 \times 10^{-6}/^{\circ}\text{C}$ in absolute value at room temperature,

a modulus of elasticity (Young's modulus) of not less than 100 GPa,

a specific rigidity (Young's modulus/specific gravity) of not less than 40 GPa·cm³/g, and

assuming a black tone.

Claim 31: (canceled).

32 (previously presented): A black low thermal expansion high specific rigidity ceramic sintered body according to claim 30,

wherein the total reflectivity of the sintered body is not more than 17% at a wavelength of light in the range of 200 - 950 nm.

Claim 33 : (canceled).

34 (previously presented): A black low thermal expansion high specific rigidity ceramic sintered body according to claim 30,

wherein the apparent porosity of the sintered body is not more than 2%.

Claim 35: (canceled).

36 (previously presented): A black low thermal expansion high specific rigidity ceramic sintered body according to claim 30,

wherein not less than 80 vol. % of the crystal phase of the sintered body is a crystal phase of cordierite.

Claim 37: (canceled).

38 (previously presented): A black low thermal expansion high specific rigidity ceramic sintered body according to claim 30,

wherein the thermal expansion coefficient is not more than $0.3 \times 10^{-6}/^{\circ}\text{C}$ in absolute value at room temperature.

39 (previously presented): A black low thermal expansion high specific rigidity ceramic sintered body according to claim 30,

wherein the modulus of elasticity is not less than 120 GPa and the specific rigidity is not less than $50 \text{ GPa}\cdot\text{cm}^3/\text{g}$.

Claims 40 – 45: (canceled).

46 (previously presented): A black low thermal expansion high specific rigidity ceramic sintered body, comprising:

having a thermal expansion coefficient of not more than $0.6 \times 10^{-6}/^{\circ}\text{C}$ in absolute value at room temperature,

a modulus of elasticity (Young's modulus) of not less than 100 GPa,

a specific rigidity (Young's modulus/specific gravity) of not less than $40 \text{ GPa}\cdot\text{cm}^3/\text{g}$, and

assuming a black tone;

said black low thermal expansion high specific rigidity ceramic sintered body having a chemical composition comprising:

8.0 - 17.2 mass % of MgO,
22.0 - 38.0 mass % of Al₂O₃,
49.5 - 65.0 mass % of SiO₂,
a total of 0.1 - 2 mass % of one or more transition elements as reduced to
oxides,
0 - 2.5 mass % of Li₂O, and
having the mass ratios satisfy the relationships of $(\text{SiO}_2 - 8 \times \text{Li}_2\text{O})/\text{MgO} \geq 3.0$
and $(\text{SiO}_2 - 8 \times \text{Li}_2\text{O})/\text{Al}_2\text{O}_3 \geq 1.2$.

47 (previously presented): A method for the production of a black low
thermal expansion high specific rigidity ceramic sintered body, comprising:

forming the sintered body in an atmosphere of a non-oxidizing gas at a
temperature in the range of 1200 - 1500°C;

said black low thermal expansion high specific rigidity ceramic sintered body,
comprising:

having a thermal expansion coefficient of not more than $0.6 \times 10^{-6}/^\circ\text{C}$ in
absolute value at room temperature,

a modulus of elasticity (Young's modulus) of not less than 100 GPa,

a specific rigidity (Young's modulus/specific gravity) of not less than 40
GPa·cm³/g, and

assuming a black tone;

said black low thermal expansion high specific rigidity ceramic sintered body
having a chemical composition comprising:

8.0 - 17.2 mass % of MgO,

22.0 - 38.0 mass % of Al₂O₃,

49.5 - 65.0 mass % of SiO_2 ,
a total of 0.1 - 2 mass % of one or more transition elements as reduced to
oxides,
0 - 2.5 mass % of Li_2O , and
having the mass ratios satisfy the relationships of $(\text{SiO}_2 - 8 \times \text{Li}_2\text{O})/\text{MgO} \geq 3.0$
and $(\text{SiO}_2 - 8 \times \text{Li}_2\text{O})/\text{Al}_2\text{O}_3 \geq 1.2$.